Week 1

Types

11	int
21.213	float
"Hello Python 101"	str

The following chart summarizes three data types for the last examples.

Types

type(11)	int
type(21.213)	float
type("Hello Python 101")	str

We can see the actual data type in Python by using the type command.

Question

What is the type of the following: **0**

○ float

◉ int

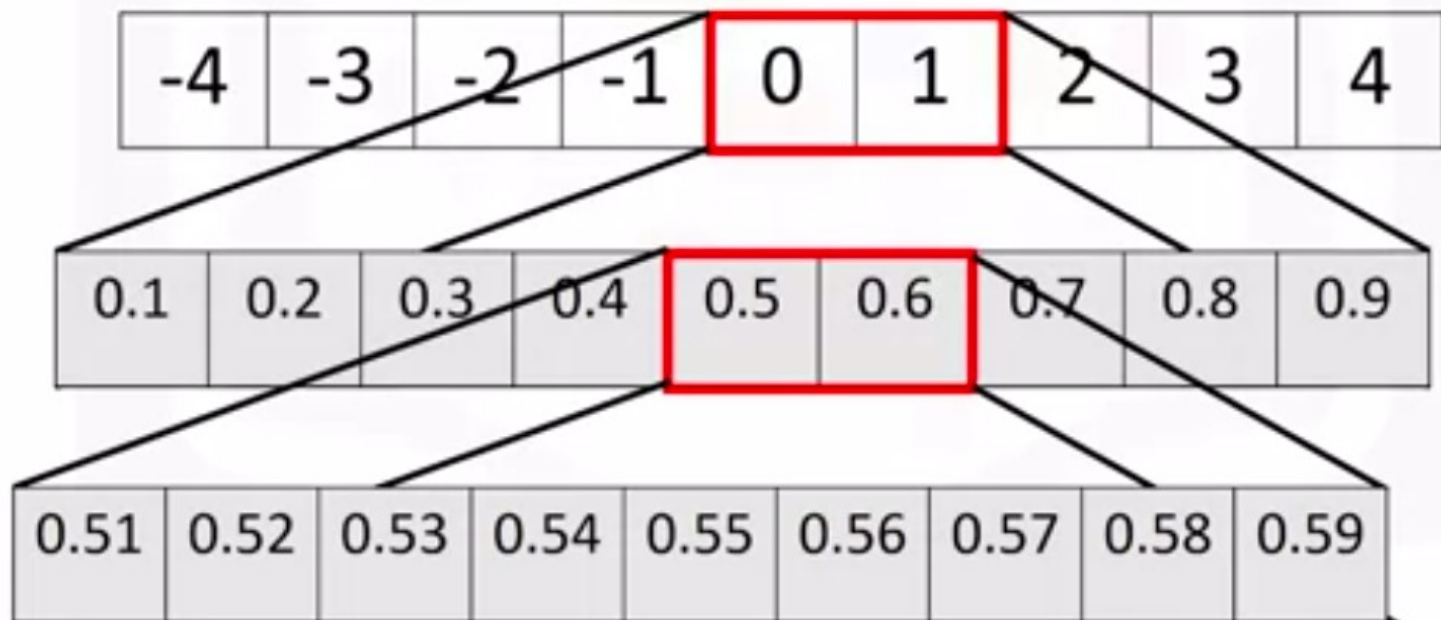✓ **Correct**
Correct, as there is no decimal the number is of type int. You can also use the type function to verify your results.

Skip   Continue

Types: floats

-4	-3	-2	-1	0	1	2	3	4

0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9

0.51	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.59

These are floats as well.

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Question

What is the type of the following number: **3.12323**

- ◉ float
- ○ int

✓ **Correct**
Correct, as there is a decimal the number is of type float. You can also use the type function to verify your results.

Skip   Continue

Types

$$\text{str}(1): \text{"1"}$$

Check out more examples in the lab.

Question

What is the result of the following: int(3.99)
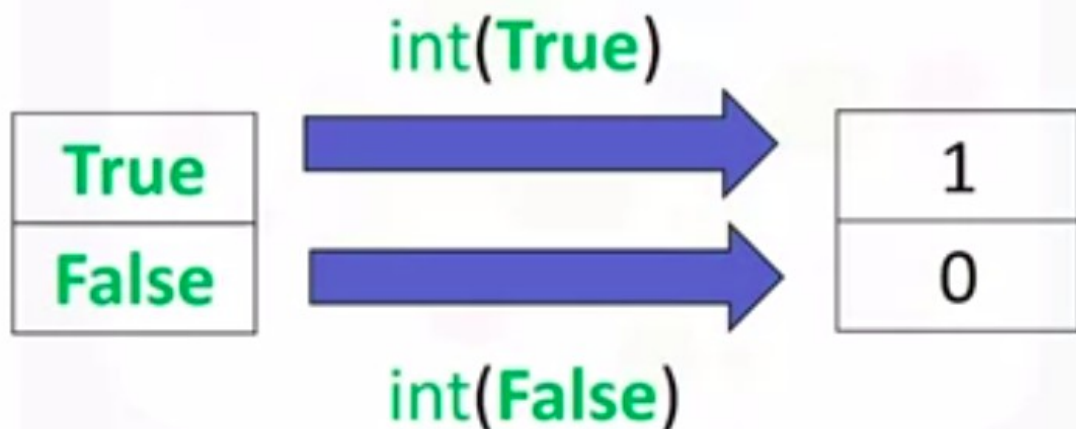
- ◉ 3
- ◯ 3.99

✓ **Correct**
Correct. In Python, if you cast a float to an integer, the conversion truncates towards zero, i.e.you just get rid of the numbers after the decimal place. So for 3.99 you just get rid of the ".99" leaving 3.

Skip   **Continue**

Types

int(**True**)

True
False

int(**False**)

1
0

If you cast a 1 to a Boolean, you get a True.

← **Back**

Practice Quiz

Practice Quiz • 9 min • 3 total points

1. **What is the type of the following: 0**

1 / 1 point

◉ Int

○ float

✓ **Correct**

Correct, as there is no decimal the number is of type int. You can also use the type function to verify your results.

2. **What is the type of the following number: 3.12323**

1 / 1 point

○ Int

◉ Float

✓ **Correct**

Correct, as there is a decimal the number is of type float. You can also use the type function to verify your results.

3. **What is the result of the following: int(3.99)**

1 / 1 point

◉ 3

Question

What is the result of the following operation: 11//2

○ 5.5

◉ 5

> ✓ **Correct**
> this is correct, the symbol // means integer value. Therefore you must round the result down.

Skip   **Continue**

Question

what is the value of x after the following is run:

x=4

x=x/2

- ⦿ 2.0

- ○ 4.0

✓ **Correct**
Correct: the value **x=x/2** changes the value of **x**, if x is assigned to its self. It's helpful to replace the value of x with its current value in this case 4 or x=4/2. We can also see that the result is a float.

Skip   **Continue**

Variables

$total\_min = 43 + 42 + 57$

$total\_hr = total\_min / 60$

total_hr:2.367

total_min

142 / 60

total_hr

2.367

The result is approximately 2.367 hours.

Variables

total_min = 43 + 42

total_hr = total_min / 60

total_hr:1.4167

total_min

85 / 60

total_hr

1.4167

The final result values change accordingly, but

Practice Quiz

← Back

Practice Quiz • 6 min • 2 total points

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1. What is the result of the following operation: 11//2

    1/1 point

  ○ 5.5

  ◉ 5

> ✓ **Correct**
>
> this is correct, the symbol // means integer value. Therefore you must round the result down.

2. What is the value of x after the following is run:

    1/1 point

x=4

x=x/2

  ○ 4.0

  ◉ 2.0

> ✓ **Correct**
>
> Correct: the value **x=x/2**changes the value of **x**, if x is assigned to its self. It's helpful to replace the value of x with its current value in this case 4 or x=4/2. We can also see that the result is a float.

STRINGS

- A sting is a sequence of characters contained within two quotes:

<p align="center">"Michael Jackson"</p>

- You can also use single quotes :

<p align="center">'Michael Jackson'</p>

You could also use single quotes.

STRINGS

- A string can be spaces or digits

<div align="center">

"1 2 3 4 5 6"

</div>

A string can be spaces or digits.

STRINGS

- A string can be spaces or digits

<div align="center">

"1 2 3 4 5 6"

</div>

- A String can also be special characters :

<div align="center">

'@#2_#]&*^%$'

</div>

A string can also be special characters.

STRINGS

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Name[0]:M   Name[6] :l   Name[13]:o

Moreover, we can access the 13th index.

Question

What is the result of the following: **Name[0]**

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

- ○ "i"
- ◉ "M"
- ○ "n"

Skip   Continue

STRINGS: Slicing

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Name[0:4] =Mich   Name[8:12] =Jack

We can treat the string as a sequence and perform sequence operations.

TUPLES: Slicing

len("Michael Jackson") =15

M	i	c	h	a	e	l		J	a	c	k	s	o	n
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

As there are 15 elements, the result is 15.

String

Name= "Michael Jackson"

Statement = Name +" is the best"

⬇

Statement = "Michael Jackson is the best"

The result is a new string that is a combination of both.

Tuples

$$3 * \text{"Michael Jackson "}$$

$$\Downarrow$$

"Michael Jackson Michael Jackson Michael Jackson "

The result is a new string.

Strings: Immutable

Name= "Michael Jackson"

Name⬛❌="J"

Name= Name+" is the best"

Name: "Michael Jackson is the best"

Michael Jackson to Michael Jackson is the best.

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Strings: escape sequences

- **** are meant to proceed escape sequences
- escape sequences are strings that are difficult to input

```
print(" Michael Jackson \n is the best" )
```

Michael Jackson

 is the best

Question

What is the output of the following: **print("AB\nC\nDE")**

- ⦿ AB

  C

  DE

- ○ ABC

  DE

- ○ AB

  CD

  E

✓ **Correct**
correct when the print function encounters a \n it displays a new line

Skip   Continue

Strings: escape sequences

```
print(" Michael Jackson \t is the best" )
```

Michael Jackson   is the best

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Strings: escape sequences

print(" Michael Jackson \\\\ is the best")

Michael Jackson \ is the best

The result is a backslash after the escape sequence.

Strings: escape sequences

```
print(r" Michael Jackson \ is the best" )
```

Michael Jackson \ is the best

We can also place an "r" in front of the string.

Method

A="Thriller is the sixth studio album"

B=A.upper()

B:"THRILLER IS THE SIXTH STUDIO ALBUM"

A="Thriller is the sixth studio album"

upper()

B:"THRILLER IS THE SIXTH STUDIO ALBUM"

The value for B is similar to A, but all the characters are uppercase.

STRINGS: Stride

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

Name.find('el'):5

Name.find('Jack'):8

Name.find('&*D'):-1

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Practice Quiz
Practice Quiz • 12 min • 4 total points

1. What is the result of the following: **Name[0]**

1 / 1 point

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

○ "i"

◉ "M"

○ "n"

✓ **Correct**

← **Back**

Practice Quiz

Practice Quiz • 12 min • 4 total points

2. What is the result of the following: **Name[-1]**

1 / 1 point

Name= "Michael Jackson"

M	i	c	h	a	e	l		J	a	c	k	s	o	n
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

- ◉ "n"
- ○ "o"
- ○ "M"

✓ **Correct**

correct, the index -1 corresponds to the last index

← **Back** **Practice Quiz**

Practice Quiz • 12 min • 4 total points

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3. What is the output of the following: **print("AB\nC\nDE")**

1 / 1 point

○ AB

   CD

   E

● AB

   C

   DE

○ ABC

   DE

✓ **Correct**

   correct when the print function encounters a \n it displays a new line

← **Back**

Practice Quiz

Practice Quiz • 12 min • 4 total points

○ ABC

  DE

✓ **Correct**

  correct when the print function encounters a \n it displays a new line

---

4. What is the result of following?

   1 / 1 point

"hello Mike".find("Mike")

If you are unsure, copy and paste the code into Jupyter Notebook and check.

● 6

○ 5

○ 6,7,8

✓ **Correct**

  correct, the method finds the starting index of a substring

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Module 1 Graded Quiz

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Graded Quiz • 27 min

Due Aug 14, 11:59 PM IST

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1. What is the value of x after the following lines of code?   **1/1 point**

x=1

x=x+1

○ 1

◉ 2

○ 4

✓ **Correct**

Correct: the value x=x+1 changes the value of x, if x is assigned to its self. It's helpful to replace the value of x with its current value in this case 1 or x=1+1.

---

2. What is the result of the following operation 1+3*2 ?   **1/1 point**

◉ 7

○ 12

○ 8

✓ **Correct**

Correct, Python follows the standard mathematical conventions

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Module 1 Graded Quiz

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Graded Quiz • 27 min

Due Aug 14, 11:59 PM IST

3. What is the type of the following **"7.1"**

1 / 1 point

○ What is the type of the following **"7.1"**

○ float

◉ string

✓ **Correct**

correct, the type is string

4. What is the result of the following code segment: **int(False)**

1 / 1 point

○ 1

◉ 0

○ error

✓ **Correct**

correct, when you cast a boolean **False** to an integer you get a 0

Module 1 Graded Quiz
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Graded Quiz • 27 min

Due Aug 14, 11:59 PM IST

5. In Python, what is the result of the following operation: **'1'+'2'** ?

1 / 1 point

○ 3

○ '3'

◉ '12'

✓ **Correct**
correct, the '+' applied to strings does not add strings but concatenates them

6. What is the result of the following: **'hello'.upper()** ?

1 / 1 point

◉ 'HELLO'

○ 'Hello'

○ 'hello'

✓ **Correct**
correct, upper returns a copy of the string in which all case-based characters have been converted to uppercase.

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Module 1 Graded Quiz

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Graded Quiz • 27 min

Due Aug 14, 11:59 PM IST

7. What is the result of the following : **str(1+1)** ?

1 / 1 point

⦿ '2'

◯ '11'

✓ **Correct**

correct, the argument is first evaluated 1+1=2, then the result is cast to a string.

8. What is the result of the following: **"123".replace("12", "ab")** ?

1 / 1 point

⦿ 'ab3'

◯ '123ab'

✓ **Correct**

correct, the method replace returns a copy of the string with all occurrences of the old substring

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8. What is the result of the following: **"123".replace("12", "ab")** ?

1 / 1 point

◉ 'ab3'

○ '123ab'

✓ **Correct**

correct, the method replace returns a copy of the string with all occurrences of the old substring

---

9. In Python 3, what is the type of the variable x after the following: **x=2/2** ?

1 / 1 point

◉ float

○ int

✓ **Correct**

correct, in Python 3, regular division always results in a float